

## **REMARKS**

At the time of this response claims 1-29 are pending in the application, of which claims 1, 12, and 14 are independent claims. Claims 1-4 and 12-29 have been rejected and claims 5-11 have been objected to. Claims 1, 12, 13, and 14 have been amended for clarification. Claims 5, 7, and 8 have been amended to put them in independent form.

### ***Claim Objections***

Claims 5-11 were objected for depending from rejected base claims. Claim 5 has been written in independent form to include the elements of claim 1 and claim 4, from which I depended. Claims 7 and 8 have each been rewritten in independent form to include the elements of claim 1.

Accordingly, withdrawal of the above objections is requested for now independent claim 5 and its dependent claim 6; now independent claim 7; and now independent claim 8 and its dependent claims 9-11.

### ***§112 Rejections***

Claim 13 and claims 14-29 were rejected under 35 U.S.C. §112 2<sup>nd</sup> paragraph as being indefinite in that “it fails to point out what ‘delayed signal’ it is.” Claim 14 was similarly rejected. Claims 13 and 14 have been amended for clarification and now identify a “first delayed signal” and a “second delayed signal.” Accordingly, Applicant respectfully requests removal of the rejections under §112 to claims 13 and 14.

Claims 15-29 depend from claim 14, and were apparently rejected based on such dependency – but were themselves otherwise not considered indefinite. Claims 15-29 were not indicated as rejected based on prior art. Accordingly, Applicant respectfully requests removal of the rejections under §112 to claims 15-29, and allowance of claims 15-29.

### ***§102 Rejections***

Claims 1-3 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,990,083 to Reina (“Reina”).

Element (c) of claim 1 has been amended for clarification. Specifically, element (c) has been amended to clarify various calculations performed in determining the *at least one coefficient and time delay of the echo canceller*. (see FIG. 7 of Present Application)  
Amended claim 1 now reads as follows:

(c) calculating at least one coefficient and a delay time of the echo canceller based on the initializing signal, including:  
calculating an echo response in a time domain of an echo channel;  
calculating an energy of the echo channel; and  
calculating the at least one coefficient and delay time of the echo canceller from the echo response in the time domain and the energy of the echo channel.

The clarifications of element (c) are not at all found in Reina. Taking its FIG. 5 as an example, Reina teaches determining an echo cancellation signal  $y(n)$  using the following prior art equation (also shown in its prior art FIGS. 1-3):

$$y(n) = \sum_{i=0}^{L-1} C_i(n) x(n-i)$$

Reina then discloses that its invention teaches determining echo cancellation coefficients  $C_i$  using an echo-canceller coefficient estimator 100, 200, which operates on signal  $Z(k)$ , which is an integrated signal output by FFT 512 (following a subtraction operation). The FFT converts a time domain signal into frequency domain signal  $Z(k)$ . (see Reina, col. 4, lines 3-57; and FIG. 5) Therefore Reina does not anticipate claim 1 element (c), and the time domain calculations explicitly cited therein.

In fact, the Office Action appears to acknowledge as much with respect to objected to claim 7, which includes elements somewhat similar to the clarifications made to element (c) of claim 1. Accordingly, Applicant respectfully requests withdrawal of the rejection under §102(e) to claim 1.

Claims 2-3 depend from claim 1 and are similarly not anticipated by Reina, i.e., the reasons put forth above. Accordingly, Applicant respectfully requests withdrawal of the rejections under §102(e) to claims 2-3.

Claim 12 is an independent claim somewhat similar to claim 1, i.e., has been amended to include explicit elements similar to those added to amended claim 1.

Therefore, for the same reasons as put forth for claim 1, Reina does not anticipate the communication system of claim 12. Accordingly, Applicant respectfully requests withdrawal of the rejection under §102(e) to claim 12.

### ***§103 Rejections***

The Office Action rejected dependent claims 4 and 13 under 35 U.S.C. §103(a) based on Reina in view of U.S. Patent No. 5,384,806 to Agazzi ("Agazzi").

Claim 4 depends from claim 1. As noted above, Reina does not anticipate the elements of amended claim 1, nor does Agazzi. Thus, claim 4, which requires that "the echo canceller is connected between a FIFO synchronizer of the transmitter and a time domain equalizer of the receiver," is not obvious in view of Reina and Agazzi. Withdrawal of the rejection to claim 4 under §103(a) is respectfully requested.

Claim 13 depends from claim 12. As noted above, Reina does not anticipate the elements of amended claim 12, nor does Agazzi. Thus, claim 13, which requires that "the echo cancellation circuit comprises: a first delay unit for delaying a signal output by the transmitter as a first delayed signal; an echo canceller for receiving the first delayed signal output by the first delay unit and removing echoes of the signal transmitted through the channel and received by the receiver; and a second delay unit for delaying a signal output by the echo canceller as a second delayed signal and for supplying the receiver with the second delayed signal" is not obvious in view of Reina and Agazzi. Withdrawal of the rejection to claim 12 under §103(a) is respectfully requested.

### **Closing Remarks**

It is submitted that all claims are in condition for allowance, and such allowance is respectfully requested. If prosecution of the application can be expedited by a telephone conference, the Examiner is invited to call the undersigned at the number given below.

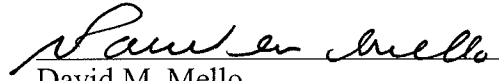
Authorization is hereby given to charge Deposit Account No. 501798 for all fees due with this response.

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Amendment dated: June 19, 2007  
Reply to Office Action of March 19, 2007  
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Applicants believe that the present application is in condition for allowance. A Notice of Allowance is respectfully solicited. Should any questions arise, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

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